

IN THE CLAIMS

Claims 1-4 (Cancelled).

Claim 5 (Currently Amended): An image forming method, comprising:

forming an electrostatic latent image on an image bearing element;

forming a toner image from the electrostatic latent image using toner;

optically neutralizing a surface potential of the image bearing element that carries the toner image so as to create an optically neutralized surface on said image bearing element;

controlling a surface potential of a transfer medium so that the toner is not transferred from the image bearing element to the transfer medium at an upstream of a contact area between the image bearing element and the transfer medium, while controlling a surface potential of a transfer medium so that the toner is transferred from the image bearing element to the transfer medium at a toner nip portion; and

transferring a plurality of toner images of different colors from the image bearing element repeatedly to the transfer medium to form a superposed toner image on the transfer medium, wherein

said step of controlling a surface potential includes applying a negative voltage to said transfer medium before said optically neutralized surface reaches said toner nip portion and applying a positive voltage to said transfer medium after said optically neutralized surface leaves said toner nip portion,

wherein the surface potential of the transfer medium has same polarity as a toner potential on the image bearing element, and

an absolute value of the surface potential of the transfer medium is equal to or greater than an absolute value of the toner potential.

Claim 6 (Original): The image forming method according to claim 5, wherein the transfer medium is either of a belt and a drum, further comprising:

transferring the superposed toner image on to a recording medium; and

forming a final image by fixing the superposed toner image on the recording medium.

Claim 7 (Original): The image forming method according to claim 5, wherein the surface potential of the image bearing element is neutralized by irradiating a light.

Claim 8 (Previously Presented): The image forming method according to claim 7, wherein

the neutralization by the light irradiation is carried out using a light emitting device, wherein the light emitting device includes a light emitting diode, a laser diode, or a xenon lamp, and

the surface potential of the image bearing element is controlled by controlling an amount of the neutralization by adjusting an amount of a light emission based on a relation between the amount of a light emission and a current flowing in or a voltage applied to the light emitting device.

Claim 9 (Original): The image forming method according to claim 5, wherein the surface potential of the image bearing element is neutralized by supplying ions emitted from an ion generating device.

Claim 10 (Original): The image forming method according to claim 9, wherein the ion generating device is either of a corotron and a scorotron.

Claim 11 (Original): The image forming method according to claim 5, wherein the charge neutralization takes place after forming the toner images on the image bearing element and before transferring the toner images to the transfer medium.

Claim 12 (Cancelled).

Claim 13 (Currently Amended): The image forming method according to claim [[12]] 5, wherein the surface potential of the image bearing element is controlled by applying a potential to a conductive element that is disposed in contact with a back of the transfer medium.

Claim 14 (Original): The image forming method according to claim 13, wherein a shape of the conductive element is a roller.

Claim 15 (Original): The image forming method according to claim 13, wherein a shape of the conductive element is a plate.

Claim 16 (Original): The image forming method according to claim 13, wherein a shape of the conductive element is a brush.

Claim 17 (Currently Amended): The image forming method according to claim [[12]] 5, wherein the surface potential of the transfer medium is controlled by charging a surface of the transfer medium at the upstream of the contact area.

Claim 18 (Original): The image forming method according to claim 17, wherein the transfer medium is charged by a scorotron.

Claim 19 (Original): The image forming method according to claim 17, wherein the transfer medium is charged by applying a voltage to a contact conductive element that rotates at same speed as the transfer medium.

Claim 20 (Original): The image forming method according to claim 17, wherein the transfer medium is charged by applying a voltage to a non-contact conductive element.

Claim 21 (Currently Amended): ~~The image forming method according to claim 5~~ An image forming method, comprising:

forming an electrostatic latent image on an image bearing element;
forming a toner image from the electrostatic latent image using toner;
optically neutralizing a surface potential of the image bearing element that carries the toner image so as to create an optically neutralized surface on said image bearing element;
controlling a surface potential of a transfer medium so that the toner is not transferred from the image bearing element to the transfer medium at an upstream of a contact area between the image bearing element and the transfer medium, while controlling a surface potential of a transfer medium so that the toner is transferred from the image bearing element to the transfer medium at a toner nip portion; and
transferring a plurality of toner images of different colors from the image bearing element repeatedly to the transfer medium to form a superposed toner image on the transfer medium, wherein

said step of controlling a surface potential includes applying a negative voltage to said transfer medium before said optically neutralized surface reaches said toner nip portion and applying a positive voltage to said transfer medium after said optically neutralized surface leaves said toner nip portion,

wherein an amount of charge neutralized from the image bearing element is controlled based on information of the image that is formed on the image bearing element.

Claim 22 (Currently Amended): ~~The image forming method according to claim 5~~ An image forming method, comprising:

forming an electrostatic latent image on an image bearing element;
forming a toner image from the electrostatic latent image using toner;
optically neutralizing a surface potential of the image bearing element that carries the toner image so as to create an optically neutralized surface on said image bearing element;
controlling a surface potential of a transfer medium so that the toner is not transferred from the image bearing element to the transfer medium at an upstream of a contact area between the image bearing element and the transfer medium, while controlling a surface potential of a transfer medium so that the toner is transferred from the image bearing element to the transfer medium at a toner nip portion; and
transferring a plurality of toner images of different colors from the image bearing element repeatedly to the transfer medium to form a superposed toner image on the transfer medium, wherein

said step of controlling a surface potential includes applying a negative voltage to said transfer medium before said optically neutralized surface reaches said toner nip portion and applying a positive voltage to said transfer medium after said optically neutralized surface leaves said toner nip portion,

wherein the surface potential of the transfer medium is controlled based on information of the image that is formed on the image bearing element.

Claim 23 (Currently Amended): ~~The image forming method according to claim 5~~ An image forming method, comprising:

forming an electrostatic latent image on an image bearing element;

forming a toner image from the electrostatic latent image using toner;

optically neutralizing a surface potential of the image bearing element that carries the toner image so as to create an optically neutralized surface on said image bearing element;

controlling a surface potential of a transfer medium so that the toner is not transferred from the image bearing element to the transfer medium at an upstream of a contact area between the image bearing element and the transfer medium, while controlling a surface potential of a transfer medium so that the toner is transferred from the image bearing element to the transfer medium at a toner nip portion; and

transferring a plurality of toner images of different colors from the image bearing element repeatedly to the transfer medium to form a superposed toner image on the transfer medium, wherein

said step of controlling a surface potential includes applying a negative voltage to said transfer medium before said optically neutralized surface reaches said toner nip portion and applying a positive voltage to said transfer medium after said optically neutralized surface leaves said toner nip portion,

wherein a transfer bias potential applied to the transfer medium is controlled based on information of the image that is formed on the image bearing element.

Claim 24 (Currently Amended): ~~The image forming method according to claim 5~~ An image forming method, comprising:

forming an electrostatic latent image on an image bearing element;
forming a toner image from the electrostatic latent image using toner;
optically neutralizing a surface potential of the image bearing element that carries the toner image so as to create an optically neutralized surface on said image bearing element;
controlling a surface potential of a transfer medium so that the toner is not transferred from the image bearing element to the transfer medium at an upstream of a contact area between the image bearing element and the transfer medium, while controlling a surface potential of a transfer medium so that the toner is transferred from the image bearing element to the transfer medium at a toner nip portion; and

transferring a plurality of toner images of different colors from the image bearing element repeatedly to the transfer medium to form a superposed toner image on the transfer medium, wherein

said step of controlling a surface potential includes applying a negative voltage to said transfer medium before said optically neutralized surface reaches said toner nip portion and applying a positive voltage to said transfer medium after said optically neutralized surface leaves said toner nip portion,

wherein neutralization of the surface potential of the image bearing element and control of the surface potential of the transfer medium are executed from the time of transferring a toner image of another color when superposing the toner images.

Claim 25 (Original): The image forming method according to claim 5, wherein a degree of roundness of the toner is equal to or more than 0.94.

Claim 26 (Currently Amended): An image forming method, comprising:

forming electrostatic latent images on a plurality of image bearing elements;

forming toner images from the electrostatic latent images using toners of different colors;

optically neutralizing a surface potential of each of the image bearing elements that carry the toner images so as to create an optically neutralized surface on said image bearing element;

controlling a surface potential of a transfer medium so that the toners are not transferred from the image bearing elements to the transfer medium at an upstream of a contact area between the image bearing elements and the transfer medium, while controlling a surface potential of a transfer medium so that the toner is transferred from the image bearing element to the transfer medium at a toner nip portion; and

transferring the toner images from the image bearing elements to the transfer medium to form a superposed toner image on the transfer medium, wherein

said step of controlling a surface potential includes applying a negative voltage to said transfer medium before said optically neutralized surface reaches said toner nip portion and applying a positive voltage to said transfer medium after said optically neutralized surface leaves said toner nip portion,

wherein the surface potential of the transfer medium has same polarity as a toner potential on the image bearing element, and

an absolute value of the surface potential of the transfer medium is equal to or greater than an absolute value of the toner potential.

Claim 27 (Original): The image forming method according to claim 26, wherein the transfer medium is either of a belt and a drum, further comprising:

transferring the superposed toner image on to a recording medium; and
forming a final image by fixing the superposed toner image on the recording medium.

Claim 28 (Original): The image forming method according to claim 26, wherein the surface potential of the image bearing element is neutralized by irradiating a light.

Claim 29 (Previously Presented): The image forming method according to claim 28, wherein

the neutralization by the light irradiation is carried out using a light emitting device, wherein the light emitting device includes a light emitting diode, a laser diode, or a xenon lamp, and

the surface potential of the image bearing element is controlled by controlling an amount of the neutralization by adjusting an amount of a light emission based on a relation between the amount of a light emission and a current flowing in or a voltage applied to the light emitting device.

Claim 30 (Original): The image forming method according to claim 26, wherein the surface potential of the image bearing element is neutralized by supplying ions emitted from an ion generating device.

Claim 31 (Original): The image forming method according to claim 30, wherein the ion generating device is either of a corotron and a scorotron.

Claim 32 (Original): The image forming method according to claim 26, wherein the charge neutralization takes place after forming the toner images on the image bearing element and before transferring the toner images to the transfer medium.

Claim 33 (Cancelled).

Claim 34 (Currently Amended): The image forming method according to claim ~~[[33]]~~ 26, wherein the surface potential of the image bearing element is controlled by applying a potential to a conductive element that is disposed in contact with a back of the transfer medium.

Claim 35 (Original): The image forming method according to claim 34, wherein a shape of the conductive element is a roller.

Claim 36 (Original): The image forming method according to claim 34, wherein a shape of the conductive element is a plate.

Claim 37 (Original): The image forming method according to claim 34, wherein a shape of the conductive element is a brush.

Claim 38 (Currently Amended): The image forming method according to claim ~~[[33]]~~ 26, wherein the surface potential of the transfer medium is controlled by charging a surface of the transfer medium at the upstream of the contact area.

Claim 39 (Original): The image forming method according to claim 38, wherein the transfer medium is charged by a scorotron.

Claim 40 (Original): The image forming method according to claim 38, wherein the transfer medium is charged by applying a voltage to a contact conductive element that rotates at same speed as the transfer medium.

Claim 41 (Original): The image forming method according to claim 38, wherein the transfer medium is charged by applying a voltage to a non-contact conductive element.

Claim 42 (Currently Amended): ~~The image forming method according to claim 26~~

An image forming method, comprising:

forming electrostatic latent images on a plurality of image bearing elements;

forming toner images from the electrostatic latent images using toners of different colors;

optically neutralizing a surface potential of each of the image bearing elements that carry the toner images so as to create an optically neutralized surface on said image bearing element;

controlling a surface potential of a transfer medium so that the toners are not transferred from the image bearing elements to the transfer medium at an upstream of a contact area between the image bearing elements and the transfer medium, while controlling a surface potential of a transfer medium so that the toner is transferred from the image bearing element to the transfer medium at a toner nip portion; and

transferring the toner images from the image bearing elements to the transfer medium to form a superposed toner image on the transfer medium, wherein

said step of controlling a surface potential includes applying a negative voltage to said transfer medium before said optically neutralized surface reaches said toner nip portion and applying a positive voltage to said transfer medium after said optically neutralized surface leaves said toner nip portion,

wherein an amount of charge neutralized from the image bearing element is controlled based on information of the image that is formed on the image bearing element.

Claim 43 (Currently Amended): ~~The image forming method according to claim 26~~

An image forming method, comprising:

forming electrostatic latent images on a plurality of image bearing elements;

forming toner images from the electrostatic latent images using toners of different colors;

optically neutralizing a surface potential of each of the image bearing elements that carry the toner images so as to create an optically neutralized surface on said image bearing element;

controlling a surface potential of a transfer medium so that the toners are not transferred from the image bearing elements to the transfer medium at an upstream of a contact area between the image bearing elements and the transfer medium, while controlling a surface potential of a transfer medium so that the toner is transferred from the image bearing element to the transfer medium at a toner nip portion; and

transferring the toner images from the image bearing elements to the transfer medium to form a superposed toner image on the transfer medium, wherein

said step of controlling a surface potential includes applying a negative voltage to said transfer medium before said optically neutralized surface reaches said toner nip portion and

applying a positive voltage to said transfer medium after said optically neutralized surface leaves said toner nip portion,

wherein the surface potential of the transfer medium is controlled based on information of the image that is formed on the image bearing element.

Claim 44 (Currently Amended): ~~The image forming method according to claim 26~~
An image forming method, comprising:

forming electrostatic latent images on a plurality of image bearing elements;
forming toner images from the electrostatic latent images using toners of different colors;

optically neutralizing a surface potential of each of the image bearing elements that carry the toner images so as to create an optically neutralized surface on said image bearing element;

controlling a surface potential of a transfer medium so that the toners are not transferred from the image bearing elements to the transfer medium at an upstream of a contact area between the image bearing elements and the transfer medium, while controlling a surface potential of a transfer medium so that the toner is transferred from the image bearing element to the transfer medium at a toner nip portion; and

transferring the toner images from the image bearing elements to the transfer medium to form a superposed toner image on the transfer medium, wherein

said step of controlling a surface potential includes applying a negative voltage to said transfer medium before said optically neutralized surface reaches said toner nip portion and applying a positive voltage to said transfer medium after said optically neutralized surface leaves said toner nip portion,

wherein a transfer bias potential applied to the transfer medium is controlled based on information of the image that is formed on the image bearing element.

Claim 45 (Currently Amended): ~~The image forming method according to claim 26~~

An image forming method, comprising:

forming electrostatic latent images on a plurality of image bearing elements;

forming toner images from the electrostatic latent images using toners of different colors;

optically neutralizing a surface potential of each of the image bearing elements that carry the toner images so as to create an optically neutralized surface on said image bearing element;

controlling a surface potential of a transfer medium so that the toners are not transferred from the image bearing elements to the transfer medium at an upstream of a contact area between the image bearing elements and the transfer medium, while controlling a surface potential of a transfer medium so that the toner is transferred from the image bearing element to the transfer medium at a toner nip portion; and

transferring the toner images from the image bearing elements to the transfer medium to form a superposed toner image on the transfer medium, wherein

said step of controlling a surface potential includes applying a negative voltage to said transfer medium before said optically neutralized surface reaches said toner nip portion and applying a positive voltage to said transfer medium after said optically neutralized surface leaves said toner nip portion,

wherein neutralization of the surface potential of the image bearing element and control of the surface potential of the transfer medium are executed from the time of transferring a toner image of another color when superposing the toner images.

Claim 46 (Original): The image forming method according to claim 26, wherein a degree of roundness of the toner is equal to or more than 0.94.

Claims 47-51 (Cancelled).